

# PROCÉDURE DE DEPLOIEMENT D'UN PFSENSE

**Auteur** : Maxime GILLE

**Reference** : Assumer

**Date** : 07/04/2023



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## DIFFUSION et VISAS

Diffusion				
Société / Entité	Destinataires	Fonction	Diffusion	Pour info
Assumer	Service IT	Procédure	Réseau	

Visas			
Société/Entité	Nom	Fonction	

## SUIVI DES VERSIONS

Version	Date	Auteur	Raison	Nombre de pages
V1.0	07/04/2023	Maxime GILLE	Procédure d'installation d'un PFSENSE	14

## COORDONNEES

Contacts		
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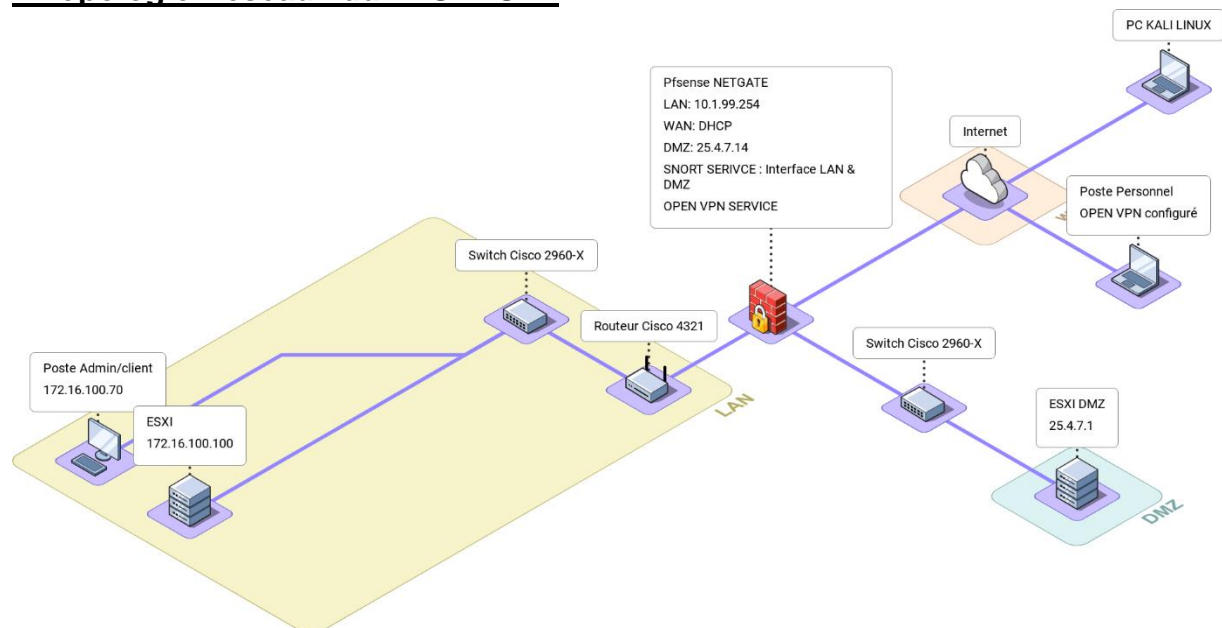
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## 1.Topologie Réseaux du PFSENSE :



## 2.Configuration de la Solution PFSENSE :

### Installation du PFSENSE :

En ce qui concerne l'installation du **PFSENSE**, une fois la machine branchée en physique, il faut se connecter en **SSH** afin d'accéder a la console pour pouvoir assigner les bonne interface et les bonnes IP.

```
Starting CRON... done.
pfSense 2.6.0-RELEASE amd64 Mon Jan 31 19:57:53 UTC 2022
Bootup complete

FreeBSD/amd64 (pfSense.home.arp) (ttyv0)

VMware Virtual Machine - Netgate Device ID: 7a666fea822b4f16ed16

*** Welcome to pfSense 2.6.0-RELEASE (amd64) on pfSense ***

WAN (wan)      -> em1      -> v4: 192.168.2.101/24
LAN (lan)      -> em0      -> v4: 192.168.10.11/24
DMZ (opt1)     -> em2      -> v4: 172.16.25.21/24

0) Logout (SSH only)          9) pfTop
1) Assign Interfaces          10) Filter Logs
2) Set interface(s) IP address 11) Restart webConfigurator
3) Reset webConfigurator password 12) PHP shell + pfSense tools
4) Reset to factory defaults    13) Update from console
5) Reboot system              14) Enable Secure Shell (sshd)
6) Halt system                15) Restore recent configuration
7) Ping host                  16) Restart PHP-FPM
8) Shell

Enter an option: █
```

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Pour cette procédure les IP des screenshot ne seront pas les même que chez assumer.

### Configuration des interfaces :

Une fois connecté en **SSH** nous pouvons faire « 1 »

```
Starting CRON... done.
pfSense 2.6.0-RELEASE amd64 Mon Jan 31 19:57:53 UTC 2022
Bootup complete

FreeBSD/amd64 (pfSense.home.arp) (ttyv0)

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7) Ping host                   16) Restart PHP-FPM
8) Shell

Enter an option: █
```

On désactive les VLAN pour assumer en faisant « n »

```
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3) Reset webConfigurator password 12) PHP shell + pfSense tools
4) Reset to factory defaults    13) Update from console
5) Reboot system               14) Enable Secure Shell (sshd)
6) Halt system                 15) Restore recent configuration
7) Ping host                   16) Restart PHP-FPM
8) Shell

Enter an option: 1

Valid interfaces are:

em0      00:0c:29:79:af:c8      (up) Intel(R) Legacy PRO/1000 MT 82545EM (Copper)
em1      00:0c:29:79:af:d2      (up) Intel(R) Legacy PRO/1000 MT 82545EM (Copper)
em2      00:0c:29:79:af:dc      (up) Intel(R) Legacy PRO/1000 MT 82545EM (Copper)

Do VLANs need to be set up first?
If VLANs will not be used, or only for optional interfaces, it is typical to
say no here and use the webConfigurator to configure VLANs later, if required.

Should VLANs be set up now [y;n]? n█
```

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Ensuite nous rentrons le nom de l'interface **WAN** ici « **em1** » ainsi que celle du **LAN** « **em0** » et de la **DMZ** « **em2** »

```

6) Halt system
7) Ping host
8) Shell

15) Restore recent configuration
16) Restart PHP-FPM

Enter an option: 1

Valid interfaces are:

em0      00:0c:29:79:af:c8    (up) Intel(R) Legacy PRO/1000 MT 82545EM (Copper)
em1      00:0c:29:79:af:d2    (up) Intel(R) Legacy PRO/1000 MT 82545EM (Copper)
em2      00:0c:29:79:af:dc    (up) Intel(R) Legacy PRO/1000 MT 82545EM (Copper)

Do VLANs need to be set up first?
If VLANs will not be used, or only for optional interfaces, it is typical to
say no here and use the webConfigurator to configure VLANs later, if required.

Should VLANs be set up now [y!n]? n

If the names of the interfaces are not known, auto-detection can
be used instead. To use auto-detection, please disconnect all
interfaces before pressing 'a' to begin the process.

Enter the WAN interface name or 'a' for auto-detection
(em0 em1 em2 or a): 

```

```

Should VLANs be set up now [y!n]? n

If the names of the interfaces are not known, auto-detection can
be used instead. To use auto-detection, please disconnect all
interfaces before pressing 'a' to begin the process.

Enter the WAN interface name or 'a' for auto-detection
(em0 em1 em2 or a): em1

Enter the LAN interface name or 'a' for auto-detection
NOTE: this enables full Firewalling/NAT mode.
(em0 em2 a or nothing if finished): em0

Optional interface 1 description found: DMZ
Enter the Optional 1 interface name or 'a' for auto-detection
(em2 a or nothing if finished): em2

The interfaces will be assigned as follows:

WAN   -> em1
LAN   -> em0
OPT1  -> em2

Do you want to proceed [y!n]? 

```

Puis on valide avec « y »

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### Configuration de l'IP WAN :

Une fois les interfaces configuré nous pouvons nous occuper des IP, débutons par l'IP du WAN. **Faite « 2 »**

```
Starting CRON... done.
pfSense 2.6.0-RELEASE amd64 Mon Jan 31 19:57:53 UTC 2022
Bootup complete

FreeBSD/amd64 (pfSense.home.arp) (ttyv0)

VMware Virtual Machine - Netgate Device ID: 7a666fea822b4f16ed16

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4) Reset to factory defaults  13) Update from console
5) Reboot system              14) Enable Secure Shell (sshd)
6) Halt system                 15) Restore recent configuration
7) Ping host                   16) Restart PHP-FPM
8) Shell

Enter an option: █
```

Choisissons « 1 » pour l'interface WAN

```
*** Welcome to pfSense 2.6.0-RELEASE (amd64) on pfSense ***

WAN (wan)      -> em1      -> v4: 192.168.2.102/24
LAN (lan)      -> em0      -> v4: 192.168.10.12/24
DMZ (opt1)     -> em2      -> v4: 172.16.25.22/24

0) Logout (SSH only)          9) pfTop
1) Assign Interfaces          10) Filter Logs
2) Set interface(s) IP address 11) Restart webConfigurator
3) Reset webConfigurator password 12) PHP shell + pfSense tools
4) Reset to factory defaults  13) Update from console
5) Reboot system              14) Enable Secure Shell (sshd)
6) Halt system                 15) Restore recent configuration
7) Ping host                   16) Restart PHP-FPM
8) Shell

Enter an option: 2

Available interfaces:

1 - WAN (em1 - static)
2 - LAN (em0 - static)
3 - DMZ (em2 - static)

Enter the number of the interface you wish to configure: █
```

Pour le PFSense d'Assumer le WAN étant le LAN de ESIEE-IT nous allons mettre l'IP en DHCP en faisant « y »

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```

WAN (wan)      -> em1      -> v4: 192.168.2.102/24
LAN (lan)      -> em0      -> v4: 192.168.10.12/24
DMZ (opt1)     -> em2      -> v4: 172.16.25.22/24

0) Logout (SSH only)          9) pfTop
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6) Halt system                15) Restore recent configuration
7) Ping host                  16) Restart PHP-FPM
8) Shell

Enter an option: 2

Available interfaces:

1 - WAN (em1 - static)
2 - LAN (em0 - static)
3 - DMZ (em2 - static)

Enter the number of the interface you wish to configure: 1

Configure IPv4 address WAN interface via DHCP? (y/n) Y

```

### Configuration de l'IP LAN :

Il est maintenant temps de configurer l'**ip LAN** qui vous est demandé juste après la configuration du **WAN**

```

For a WAN, enter the new WAN IPv4 upstream gateway address.
For a LAN, press <ENTER> for none:
> 

```

Pour Assumer l'**ip LAN est 10.1.99.254/24**

### Configuration de l'IP DMZ:

Cette configuration vient juste après la configuration LAN

```

Enter the new OPT1 IPv4 address. Press <ENTER> for none:
> 

```

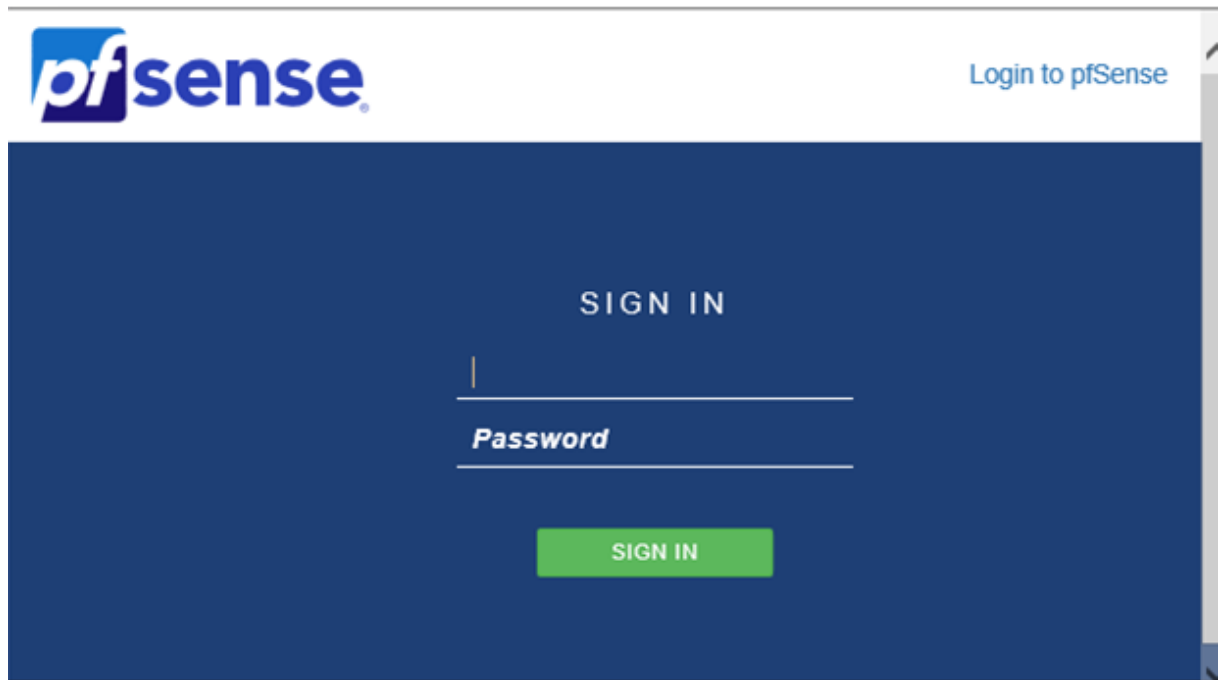
Pour Assumer l'**IP DMZ est 25.7.4.14/28**



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Finalisation de l'installation du Firewall :

Une fois les **IP** configuré vous pourrez via un pc et l'**IP LAN** vous connecter à l'interface **WEB** du **PFSense**

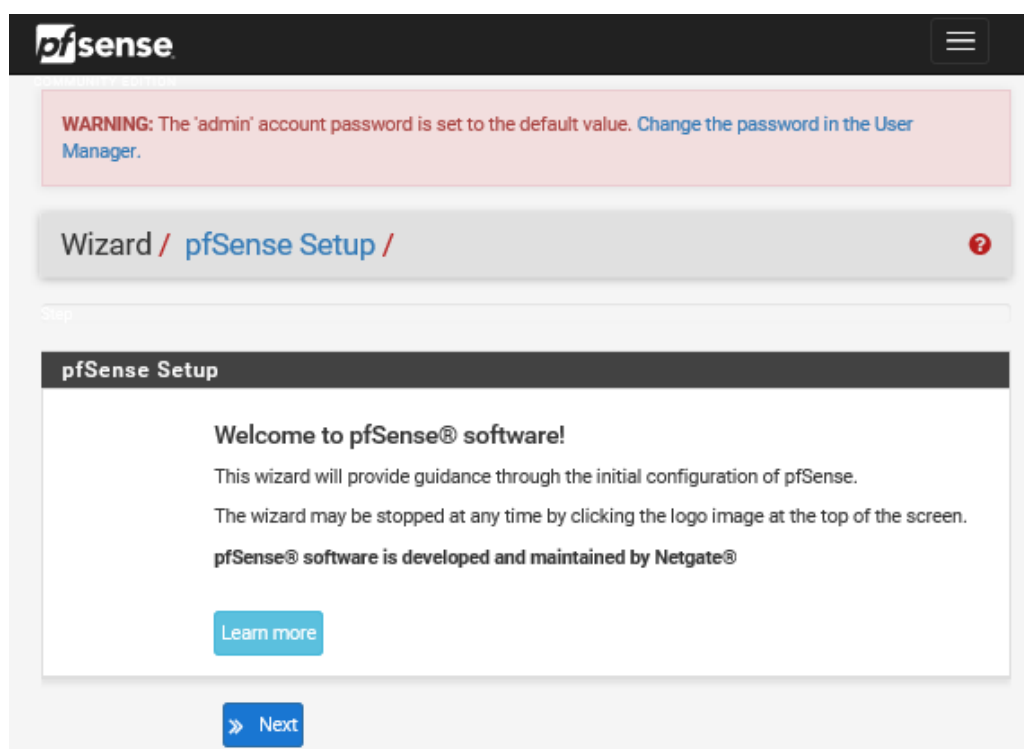


Les **identifiants par défaut de pfSense** sont les suivants :

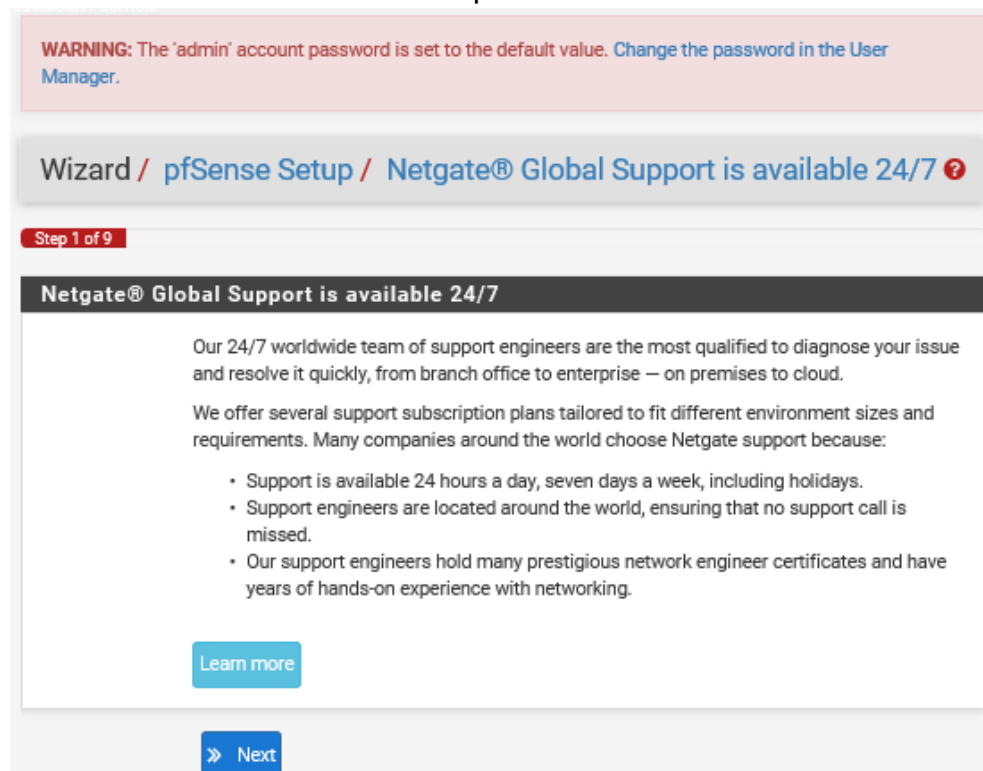
- 
- **Login** : admin
- **Mot de passe** : pfsense

Vous arrivez sur l'**assistant de configuration** de pfSense qui va nous permettre de finaliser l'installation de notre firewall. Cliquez sur le bouton « **Next** ».

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L'assistant nous informe qu'il est possible d'avoir un **support technique sous condition de souscrire un contrat**. Cliquez de nouveau sur **Next**.



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Au niveau de la partie des **informations générales**, vous pouvez modifier le **nom du firewall** et déclarer votre **nom de domaine** dans votre réseau, ici Assumer.fr. Également vous pouvez **déclarer un serveur DNS local**. Je ne modifie ici aucun champ.

Wizard / pfSense Setup / General Information ?

Step 2 of 9

### General Information

On this screen the general pfSense parameters will be set.

**Hostname**   
EXAMPLE: myserver

**Domain**   
EXAMPLE: mydomain.com

The default behavior of the DNS Resolver will ignore manually configured DNS servers for client queries and query root DNS servers directly. To use the manually configured DNS servers below for client queries, visit Services > DNS Resolver and enable DNS Query Forwarding after completing the wizard.

**Primary DNS Server**

**Secondary DNS Server**

**Override DNS** ☒  
Allow DNS servers to be overridden by DHCP/PPP on WAN

Choisissez « **Europe/Paris** » dans la **Timezone** et poursuivez.

Wizard / pfSense Setup / Time Server Information ?

Step 3 of 9

### Time Server Information

Please enter the time, date and time zone.

**Time server hostname**   
Enter the hostname (FQDN) of the time server.

**Timezone**

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Durant la phase de configuration, il est également **nécessaire de changer les identifiants par défaut du compte admin de PFSense**

The screenshot shows the 'Set Admin WebGUI Password' step of the pfSense Setup Wizard. The breadcrumb trail at the top reads 'Wizard / pfSense Setup / Set Admin WebGUI Password'. A progress bar indicates 'Step 6 of 9'. The main heading is 'Set Admin WebGUI Password'. Below this, a text box explains: 'On this screen the admin password will be set, which is used to access the WebGUI and also SSH services if enabled.' There are two password input fields: 'Admin Password' and 'Admin Password AGAIN', both masked with dots. A blue 'Next' button is at the bottom.

**La phase finale de l'installation de pfsense est terminée.** Cliquez sur **Reload** pour recharger pfsense. A la fenêtre suivante, vous pourrez simplement cliquer sur le bouton **Finish**.

The screenshot shows the 'Reload configuration' step of the pfSense Setup Wizard. The breadcrumb trail at the top reads 'Wizard / pfSense Setup / Reload configuration'. A progress bar indicates 'Step 7 of 9'. The main heading is 'Reload configuration'. Below this, a text box says: 'Click 'Reload' to reload pfSense with new changes.' A blue 'Reload' button is at the bottom.

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Vous arrivez donc sur le **tableau de bord de votre pfsense**. Vous retrouvez ici des **infos sur l'utilisation des ressources de la machine** elle-même, ses **différentes adresses IP**, sa **version** et ses **mise à jour** si nécessaire

Status / Dashboard

### System Information

Name	pfSense.home.arpa
User	admin@192.168.10.10 (Local Database)
System	VMware Virtual Machine Netgate Device ID: 7a666fea822b4f16ed16
BIOS	Vendor: Phoenix Technologies LTD Version: 6.00 Release Date: Thu Nov 12 2020
Version	2.6.0-RELEASE (amd64) built on Mon Jan 31 19:57:53 UTC 2022 FreeBSD 12.3-STABLE  Unable to check for updates
CPU Type	AMD Ryzen 7 3700X 8-Core Processor AES-NI CPU Crypto: Yes (inactive) QAT Crypto: No
Hardware crypto	
Kernel PTI	Disabled
MDS Mitigation	Inactive
Uptime	00 Hour 37 Minutes 39 Seconds
Current date/time	Fri Apr 7 17:05:42 UTC 2023
DNS server(s)	127.0.0.1
Last config change	Fri Apr 7 16:38:16 UTC 2023
State table size	1% (220/19000) <a href="#">Show states</a>
MBUF Usage	0% (3436/1000000)
Load average	0.51, 0.50, 0.52
CPU usage	1%
Memory usage	59% of 190 MiB
SWAP usage	2% of 1023 MiB

### Netgate Services And Support

Contract type: Community Support  
Community Support Only

#### NETGATE AND pfSense COMMUNITY SUPPORT RESOURCES

If you purchased your pfSense gateway firewall appliance from Netgate and elected **Community Support** at the point of sale or installed pfSense on your own hardware, you have access to various community support resources. This includes the [NETGATE RESOURCE LIBRARY](#).

You also may upgrade to a Netgate Global Technical Assistance Center (TAC) Support subscription. We're always on! Our team is staffed 24x7x365 and committed to delivering enterprise-class, worldwide support at a price point that is more than competitive when compared to others in our space.

- Upgrade Your Support
- Community Support Resources
- Netgate Global Support FAQ
- Official pfSense Training by Netgate
- Netgate Professional Services
- Visit Netgate.com

If you decide to purchase a Netgate Global TAC Support subscription, you **MUST** have your **Netgate Device ID (NDI)** from your firewall in order to validate support for this unit. Write down your NDI and store it in a safe place. You can purchase TAC support [here](#).

### Interfaces

WAN	1000baseT <full-duplex>	192.168.2.101
LAN	1000baseT <full-duplex>	192.168.10.11
DMZ	1000baseT <full-duplex>	172.16.25.21

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## Configuration des règles de Firewall :

Pour configurer vos règles de firewall vous devrez aller dans **Firewall>rules**

The screenshot shows the pfSense web interface. At the top, the navigation bar includes 'System', 'Interfaces', 'Firewall', 'Services', 'VPN', 'Status', 'Diagnostics', and 'Help'. The 'Firewall' menu is open, showing options: Aliases, NAT, Rules (highlighted with a red box), Schedules, Traffic Shaper, and Virtual IPs. Below the menu, there's a 'Status / Dashboard' link. The main content area is split into two panels. The left panel, 'System Information', shows details like Name (pfSense.home.arpa), User (admin@192.168.10.10), System (VMware Virtual Machine), BIOS (Phoenix Technologies LTD), Version (2.6.0-RELEASE), CPU Type (AMD Ryzen 7 3700X), and Hardware crypto (Disabled). The right panel, 'Netgate Services And Support', displays contract information and links to support resources.

Vous pourrez sur chaque **interface** configurer différentes **règles de Trafic**, en appuyant sur « **add** »

The screenshot shows the 'Firewall / Rules / LAN' configuration page. At the top, there are tabs for 'Floating', 'WAN', 'LAN', and 'DMZ', with 'LAN' selected. Below the tabs is a table titled 'Rules (Drag to Change Order)'. The table has columns: States, Protocol, Source, Port, Destination, Port, Gateway, Queue, Schedule, Description, and Actions. There are five rules listed: 1. Anti-Lockout Rule (States: 12 / 333 KiB, Protocol: \*, Source: \*, Port: \*, Destination: LAN Address, Port: 80, Gateway: \*, Queue: \*, Schedule: none). 2. IPv4 PFSYNC (States: 0 / 0 B, Protocol: IPv4 PFSYNC, Source: AliasLAN, Port: \*, Destination: This Firewall, Port: \*, Gateway: \*, Queue: none, Schedule: none). 3. IPv4 TCP (States: 0 / 0 B, Protocol: IPv4 TCP, Source: AliasLAN, Port: \*, Destination: This Firewall, Port: 443 (HTTPS), Gateway: \*, Queue: none, Schedule: none). 4. Default allow LAN to any rule (States: 19 / 142.16 MiB, Protocol: IPv4 \*, Source: LAN net, Port: \*, Destination: \*, Port: \*, Gateway: \*, Queue: none, Schedule: none). 5. Default allow LAN IPv6 to any rule (States: 0 / 0 B, Protocol: IPv6 \*, Source: LAN net, Port: \*, Destination: \*, Port: \*, Gateway: \*, Queue: none, Schedule: none). At the bottom, there are buttons for 'Add', 'Add', 'Delete', 'Save', and 'Separator'.

Les règles d'Assumer sont les suivantes :

**WAN to LAN communication OK**

**WAN to DMZ communication OK**

**LAN to WAN communication OK**

**LAN to DMZ communication bloquée**

**DMZ to WAN communication OK**

**DMZ to LAN communication bloquée**